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(71) Applicant (for all designated States except US): **SOREQ  
NUCLEAR RESEARCH CENTER [IL/IL]**; Nahal  
Soreq, 81800 Yavne (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SHAPIRA, Joseph**  
[IL/IL]; Nahal Soreq, 81800 Yavne (IL). **ZMORA, Hagai**  
[IL/IL]; Nahal Soreq, 81800 Yavne (IL).

(74) Agent: **KLEIN, David**; Beit HaRo'im, 18 Menuha VeNa-  
hala Street, Room 27, 76209 Rehovot (IL).

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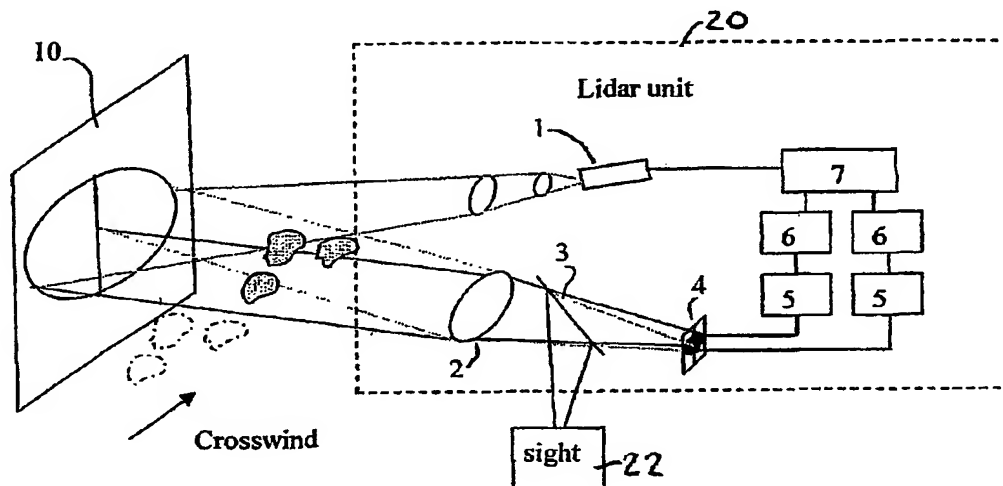
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(54) Title: FIRE CONTROL SYSTEM USING A LIDAR (LASER IDENTIFICATION, DETECTING AND RANGING) UNIT



(57) Abstract: A fire control system that includes an array of photodiode elements. For each element of the photodiode array, there is a specific optical path in the atmosphere leading from the laser to a target and back from the target to the element. Accordingly, each element of the detector array can be regarded as if illuminated by a distinct light source. For short time periods (in the range of tens to hundreds of milliseconds) the shape or spatial distribution of the refractive-index irregularities does not significantly change, and the irregularities drift with the atmospheric wind. By measuring the signal fluctuations by any element of the photodiode array, it is possible to compute the crosswind velocity. By comparing signal fluctuations patterns of two or more elements it is possible to define the wind direction and to determine the turbulence strength value.